

DEATH BY MEDICINE

Analysis of available statistics reveals a disturbing picture that shows the medical pharmaceutical system is the biggest cause of death and injury in the United States.

Part 1 of 3

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ABSTRACT

A definitive review and close reading of medical peer-review journals and government health statistics shows that American medicine frequently causes more harm than good. The number of people having in-hospital, adverse drug reactions (ADR) to prescribed medicine is 2.2 million [Lazarou, *JAMA* 279, 1998].¹

Dr Richard Besser, of the US Centers for Disease Control and Prevention (CDC), in 1995 said the number of unnecessary antibiotics prescribed annually for viral infections was 20 million. Dr Besser, in 2003, now refers to tens of millions of unnecessary antibiotics.^{2,2a} The number of unnecessary medical and surgical procedures performed annually is 7.5 million.³ The number of people exposed to unnecessary hospitalisation annually is 8.9 million.⁴ The total number of iatrogenic deaths shown in the following table [see next page] is 783,936. It is evident that the American medical system is the leading cause of death and injury in the United States. The 2001 heart disease annual death rate is 699,697; the annual cancer death rate, 553,251.⁵ [Abstract is continued on next page.]

INTRODUCTION

Never before have the complete statistics on the multiple causes of iatrogenesis been combined in one paper. Medical science amasses tens of thousands of papers annually, each one a tiny fragment of the whole picture. To look at only one piece and try to understand the benefits and risks is to stand one inch away from an elephant and describe everything about it. You have to pull back to reveal the complete picture, such as we have done here. Each speciality, each division of medicine, keeps its own records and data on morbidity and mortality, like pieces of a puzzle. But the numbers and statistics were always hiding in plain sight.

We have now completed the painstaking work of reviewing thousands and thousands of studies. Finally putting the puzzle together, we came up with some disturbing answers.

Is American Medicine Working?

At 14% of the gross national product, health-care spending reached US\$1.6 trillion in 2003.¹⁵ Considering this enormous expenditure, we should have the best medicine in the world. We should be reversing disease, preventing disease and doing minimal harm. However, careful and objective review shows the opposite. Because of the extraordinarily narrow context of medical technology through which contemporary medicine examines the human condition, we are completely missing the full picture.

Medicine is not taking into consideration the following monumentally important aspects of a healthy human organism: (a) stress and how it adversely affects the immune system and life processes; (b) insufficient exercise; (c) excessive caloric intake; (d) highly processed and denatured foods grown in denatured and chemically damaged soil; and (e) exposure to tens of thousands of environmental toxins.

Instead of minimising these disease-causing factors, we actually cause more illness through medical technology, diagnostic testing, overuse of medical and surgical procedures and overuse of pharmaceutical drugs. The huge disservice of this therapeutic strategy is the result of little effort or money being appropriated for preventing disease.

Under-reporting of Iatrogenic Events

As few as 5% and only up to 20% of iatrogenic acts are ever reported.^{16, 24, 25, 33, 34} This implies that if medical errors were completely and accurately reported, we would have a

ANNUAL PHYSICAL AND ECONOMIC COST OF MEDICAL INTERVENTION

Condition	Deaths	Cost	Author
Hospital ADR	106,000	\$12 billion	Lazarou ¹ , Suh ⁴⁹
Medical error	98,000	\$2 billion	IOM ⁶
Bedsore	115,000	\$55 billion	Xakellis ⁷ , Barczak ⁸
Infection	88,000	\$5 billion	Weinstein ⁹ , MMWR ¹⁰
Malnutrition	108,800	----	Nurses Coalition ¹¹
Outpatient ADR	199,000	\$77 billion	Starfield ¹² , Weingart ¹¹²
Unnecessary Procedures	37,136	\$122 billion	HCUP ^{3,13}
Surgery-related	32,000	\$9 billion	AHRQ ⁸⁵
TOTAL	783,936	\$282 billion	

ANNUAL UNNECESSARY MEDICAL EVENTS STATISTICS

Unnecessary Events	People Affected	Iatrogenic Events
Hospitalisation	8.9 million ⁴	1.78 million ¹⁶
Procedures	7.5 million ³	1.30 million ⁴⁰
TOTAL	16.4 million	3.08 million

ABSTRACT (continued)

We could have an even higher death rate by using Dr Lucien Leape's 1997 medical and drug error rate of three million.¹⁴ Multiplied by the fatality rate of 14%, which Leape used in 1994,¹⁶ we arrive at an annual death rate of 420,000 for drug errors and medical errors combined. If we put this number in place of Lazarou's 106,000 drug errors and the Institute of Medicine's (IOM's) 98,000 medical errors (which may have a drug error overlap with Lazarou's study), we could add another 216,000 deaths, making a total of 999,936 deaths annually.

The enumerating of unnecessary medical events is very important in our analysis. Any medical procedure that is invasive and not necessary must be considered as part of the larger iatrogenic picture.

Unfortunately, cause and effect go unmonitored. The figures on unnecessary events represent people ("patients") who are thrust into a dangerous health-care system. They are helpless victims. Each one of these 16.4 million lives is being affected in a way that could have a fatal consequence.

Simply entering a hospital could result in the following:

1. In 16.4 million people, a 2.1% chance of a serious adverse drug reaction¹ (186,000);
2. In 16.4 million people, a 5–6% chance of acquiring a nosocomial infection⁹ (489,500);
3. In 16.4 million people, a 4–36% chance of having an iatrogenic injury in hospital (medical errors and adverse drug reactions)¹⁶ (1.78 million);
4. In 16.4 million people, a 17% chance of a procedural error⁴⁰ (1.3 million).

TEN-YEAR DEATH RATES FOR MEDICAL INTERVENTION

Condition	10-Year Deaths	Author
Adverse Drug Reaction	1.06 million	(1)
Medical error	0.98 million	(6)
Bedsore	1.15 million	(7, 8)
Nosocomial Infection	0.88 million	(9, 10)
Malnutrition	1.09 million	(11)
Outpatients	1.99 million	(12, 112)
Unnecessary Procedures	371,360	(3, 13)
Surgery-related	320,000	(85)
TOTAL	7,841,360 (7.8 million)	

All the statistics above represent a one-year time span. Imagine the numbers over a 10-year period. Working with the most conservative figures from our statistics, we project these 10-year death rates (see above).

Our projected statistic of 7.8 million iatrogenic deaths is more than all the casualties from wars that America has fought in its entire history.

Our projected figures for unnecessary medical events occurring over a 10-year period are also dramatic.

TEN-YEAR STATISTICS FOR UNNECESSARY INTERVENTION

Unnecessary Events	10-year Number	Iatrogenic Events
Hospitalisation	89 million ⁴	17.8 million
Procedures	75 million ³	13.0 million
TOTAL	164 million	30.8 million

These projected figures show that a total of 164 million people, approximately 56% of the population of the United States, have been treated unnecessarily by the medical industry—in other words, about 50,000 people per day.

We have added, cumulatively, figures from 13 references of annual iatrogenic deaths. However, there is invariably some degree of overlap and double-counting that can occur in gathering non-finite statistics. Death numbers don't come with names and birth dates to prevent duplication. On the other hand, there are many missing statistics.

As we will show, only about 5–20% of iatrogenic incidents are even recorded.^{16, 24, 25, 33, 34} And, our outpatient iatrogenic statistics¹¹² only include drug-related events and not surgical cases, diagnostic errors or therapeutic mishaps. We have also been conservative in our inclusion of statistics that were not reported in peer-review journals or by government institutions. For example, the *Chicago Tribune* of July 21, 2002, published an analysis of records from patient databases, court cases, 5,810 hospitals as well as 75 federal and state agencies which found 103,000 cases of death due to hospital infections, 75% of which were preventable.¹⁵² We do not include this figure, but report the lower Weinstein figure of 88,000.⁹

Another figure that we withheld, for lack of proper peer review, was from the National Committee for Quality Assurance's September 2003 report which found that at least 57,000 people die annually from lack of proper care for common diseases such as high blood pressure, diabetes or heart disease.¹⁵³

Overlapping of statistics in "Death by Medicine" may occur with the Institute of Medicine's paper that designates "medical error" as including drugs, surgery and unnecessary procedures.⁶ Since we have also included other statistics on adverse drug reactions, surgery and unnecessary procedures, perhaps as much as 50% of the IOM number could be redundant. However, even taking away half the 98,000 IOM number still leaves us with iatrogenic events as the number-one killer at 734,936 annual deaths.

Even greater numbers of iatrogenic deaths will eventually come to light when all facets of health care delivery are measured. Most iatrogenic statistics are derived from hospital-based studies. However, health care is no longer typically relegated to hospitals. Today, health care is shared by hospitals, outpatient clinics, transitional care, long-term care, rehabilitative care, home care and private practitioners' offices.

In the current climate of reducing health-care costs, the number of hospitals and the length of patient stays are being slashed. These measures will increase the number of patients shunted into outpatient, home care and long-term care, and the iatrogenic morbidity and mortality will also increase.

much higher annual iatrogenic death rate than 783,936. Dr Leape, in 1994, said his figure of 180,000 medical mistakes annually was equivalent to three jumbo-jet crashes every two days.¹⁶ Our report shows that six jumbo jets are now falling out of the sky each and every day!

Correcting a Compromised System

What we must deduce from this report is that medicine is in need of complete and total reform—from deciding the curriculum in medical schools to protecting patients from excessive medical intervention. It is quite obvious that we can't change anything if we are not honest about what needs to be changed. This report simply shows the degree to which change is required. We are fully aware that standing in the way of change are powerful pharmaceutical companies, medical technology companies and special-interest groups with enormous vested interests in the business of medicine. They fund medical research, support medical schools and hospitals and advertise in medical journals. With deep pockets they entice scientists and academics to support their efforts.

Such funding can sway the balance of opinion from professional caution to uncritical acceptance of a new therapy or drug. You only have to look at the number of vested people on hospital, medical and government health advisory boards to see conflict of interest. The public is mostly unaware of these interlocking interests.

For example, a 2003 study found that nearly half of medical school faculty who serve on Institutional Review Boards (IRB) to advise on clinical trial research also serve as consultants to the pharmaceutical industry.¹⁷ The authors were concerned that such representation could cause potential conflicts of interest. A news release by Dr Erik Campbell, the lead author, said: "Our previous research with faculty has shown us that ties to industry can affect scientific behavior, leading to such things as trade secrecy and delays in publishing research. It's possible that similar relationships with companies could affect IRB members' activities and attitudes."¹⁸

Medical Ethics and Conflict of Interest in Scientific Medicine

Jonathan Quick, Director of Essential Drugs and Medicines Policy for the World Health Organization, wrote in a recent *WHO Bulletin* [Dec 17, 2001] that "If clinical trials become a commercial venture in which self interest overrules public interest and desire overrules science, then the social contract which allows research on human subjects in return for medical advances is broken".¹⁹

The former editor of the *New England Journal of Medicine* (*NEJM*), Dr Marcia Angell, struggled to bring the world's attention to the problem of commercialising scientific research in her outgoing editorial, "Is Academic Medicine for Sale?"²⁰ Angell called for stronger restrictions on pharmaceutical stock ownership and other financial incentives for researchers. She said that growing conflicts of interest are tainting science. She warned that "When the boundaries between industry and academic medicine

become as blurred as they are now, the business goals of industry influence the mission of medical schools in multiple ways". She did not discount the benefits of research but said a Faustian bargain now existed between medical schools and the pharmaceutical industry.

Angell left the *NEJM* in June 2000. Two years later, in June 2002, the *NEJM* announced that it will now accept contributions from biased journalists (those who accept money from drug companies) because it is too difficult to find ones that have no ties. Another former editor of the journal, Dr Jerome Kassirer, told ABC News [June 12, 2002] that was just not the case, that there are plenty of researchers who don't work for drug companies.²¹ The report said that one measurable tie between pharmaceutical companies and doctors amounts to over \$2 billion a year spent for over 314,000 events that doctors attend. The ABC report also noted that a survey of clinical trials revealed that when a drug company funds a study, there is a 90% chance that the drug will be perceived as effective—whereas a non-drug-company-funded study will show favourable results 50% of the time. It appears that money can't buy you love, but it can buy you any "scientific" result you want. The only safeguard to reporting these studies was if the journal writers remained unbiased. That is no longer the case.

Cynthia Crossen, a writer on the *Wall Street Journal*, is the author of *Tainted Truth: The Manipulation of Fact in America* (1996), a book about the widespread practice of lying with statistics.²² Commenting on the state of scientific research, she said that "The road to hell was paved with the flood of corporate research dollars that eagerly filled gaps left by slashed government research funding". Her data on financial involvement showed that in 1981 the drug industry "gave" \$292 million to colleges and universities for research; in 1991 it "gave" \$2.1 billion.

The First Iatrogenics Study

Dr Lucien L. Leape opened medicine's Pandora's box with his 1994 *JAMA* paper, "Error in Medicine" [Dec 21].¹⁶ He began the paper by reminiscing about Florence Nightingale's maxim, "First do no harm". But he found evidence of the opposite happening in medicine. He found that Schimmel (1964) reported that 20% of hospital patients suffered iatrogenic injury, with a 20% fatality rate. Steel (1981) reported that 36% of hospitalised patients experienced iatrogenesis, with a 25% fatality rate, and adverse drug reactions were involved in 50% of the injuries. Bedell (1991) reported that 64% of acute heart attacks in one hospital were preventable and were mostly due to adverse drug reactions. However, Leape focused on his and Brennan's "Harvard Medical Practice Study", published in 1991.^{16a} They found that in New York State in 1984 there was a 4% iatrogenic injury rate for patients, with a 14% fatality rate. From the 98,609 patients injured and the 14% fatality rate, Leape estimated that in the whole of the United States, 180,000 people die each year partly as a result of iatrogenic injury.

Why Leape chose to use the much lower figure of 4% injury for his analysis remains in question. Perhaps he wanted to tread

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lightly. If Leape had instead calculated the average rate among the three studies he cites (36%, 20% and 4%), he would have come up with a 20% medical error rate. The number of fatalities that he could have presented, using an average rate of injury and his 14% fatality rate, is an annual 1,189,576 iatrogenic deaths, or over 10 jumbo jets crashing every day.

Leape acknowledged that the literature on medical error is sparse and we are only seeing the tip of the iceberg. He said that when errors are specifically sought out, reported rates are "distressingly high". He cited several autopsy studies with rates as high as 35–40% of missed diagnoses causing death. He also commented that an intensive care unit reported an average of 1.7 errors per day per patient, and 29% of those errors were potentially serious or fatal. We wonder: what is the effect on someone who daily gets the wrong medication, the wrong dose, the wrong procedure; how do we measure the accumulated burden of injury, and when the patient finally succumbs after the 10th error that week, what is entered on the death certificate?

Leape calculated the rate of error in the intensive care unit. First, he found that each patient had an average of 178 "activities" (staff/procedure/medical interactions) a day, of which 1.7 were errors, which means a 1% failure rate. To some, this may not seem like much, but, putting this into perspective, Leape cited industry standards where a 0.1% failure rate would mean: in aviation, two unsafe plane landings per day at [Chicago's] O'Hare airport; in the US Mail, 16,000 pieces of lost mail every hour; or in banking, 32,000 bank checks deducted from the wrong bank account every hour.

Analysing why there is so much medical error, Leape acknowledged the lack of reporting. Unlike a jumbo-jet crash, which gets instant media coverage, hospital errors are spread out over the country in thousands of different locations. They are also perceived as isolated and unusual events. However, the most important reason that medical error is unrecognised and growing, according to Leape, was—and still is—that doctors and nurses are unequipped to deal with human error, due to the culture of medical training and practice.

Doctors are taught that mistakes are unacceptable. Medical mistakes are therefore viewed as a failure of character, and any error equals negligence. We can see how a great deal of "sweeping under the rug" takes place, since nobody is taught what to do when medical error does occur. Leape cited McIntyre and Popper, who said that the "infallibility model" of medicine leads to intellectual dishonesty with a need to cover up mistakes rather than admit them. There are no grand rounds on medical errors; there is no sharing of failures among doctors, and no one to support doctors emotionally when their error harms a patient.

Dr Leape hoped his paper would encourage medical practitioners to "fundamentally change the way they think about errors and why they occur". It's been almost a decade since this groundbreaking work, but the mistakes continue to soar.

One year later, in 1995, a report in *JAMA* [July 5] said: "Over a

million patients are injured in US hospitals each year, and approximately 280,000 die annually as a result of these injuries. Therefore, the iatrogenic death rate dwarfs the annual automobile accident mortality rate of 45,000 and accounts for more deaths than all other accidents combined."²³

At a press conference in 1997, Dr Leape released a nationwide poll on patient iatrogenesis, conducted by the National Patient Safety Foundation (NPSF) which is sponsored by the American Medical Association. (Dr Leape is a founding member of the NPSF.) The survey found that more than 100 million Americans have been impacted directly and indirectly by a medical mistake. Forty-two per cent were directly affected and 84% personally knew of someone who had experienced a medical mistake.¹⁴

Dr Leape at this press conference also updated his 1994 statistics, saying that medical errors in in-patient hospital settings nationwide, as of 1997, could be as high as three million and could cost as much as \$200 billion. Leape used a 14% fatality rate to determine a medical error death rate of 180,000 in 1994.¹⁶ Using Leape's base number of three million errors, the annual deaths figure for 1997 could be as much as 420,000 for in-patients alone. This does not include nursing home deaths or people in the outpatient community dying of drug side effects or as a result of medical procedures.

This brings up the obvious question: who is reporting medical error?

Usually it is the patient or the patient's surviving family.

If no one notices the error, it is never reported.

Only a Fraction of Medical Errors Are Reported

Leape, in 1994, said that he was well aware that medical errors were not being reported.¹⁶

According to a study in two obstetrics units in the UK, only about one quarter of the adverse incidents in the units is ever reported, for reasons of protecting staff or preserving reputations or for fear of reprisals including lawsuits.²⁴

An analysis by Wald and Shojania [2001] found that only 1.5% of all adverse events result in an incident

report, and only 6% of adverse drug events are identified properly. The authors learned that the American College of Surgeons gives a very broad guess that surgical incident reports routinely capture only 5–30% of adverse events. In one surgical study, only 20% of surgical complications resulted in discussion at morbidity and mortality rounds.²⁵ From these studies, it appears that all the statistics that are gathered may be substantially underestimating the number of adverse drug and medical therapy incidents. This also underscores the fact that our mortality statistics are actually conservative figures.

An article in *Psychiatric Times* [Grinfield, April 2000] outlines the stakes involved with reporting medical errors.²⁶ The author found that the public is fearful of suffering a fatal medical error, and doctors are afraid they will be sued if they report an error.

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Janet Heinrich, an associate director at the US General Accounting Office which is responsible for health financing and public health issues, testifying before a House subcommittee on

medical errors, said that "The full magnitude of their threat to the American public is unknown". She added that "Gathering valid and useful information about adverse events is extremely difficult". She acknowledged that the fear of being blamed and the potential for legal liability played key roles in the under-reporting of errors. The *Psychiatric Times* noted that the American Medical Association is strongly opposed to mandatory reporting of medical errors.²⁶ And if doctors aren't reporting, what about nurses? In a survey of nurses, they also did not report medical mistakes for fear of retaliation.²⁷

Standard medical pharmacology texts admit that relatively few doctors ever report adverse drug reactions to the Food and Drug Administration.²⁸ The reasons range from not knowing such a reporting system exists to fearing being sued because they prescribed a drug that caused harm.²⁹ However, it is this tremendously flawed system of voluntary reporting from doctors that we depend on to know whether a drug or a medical intervention is harmful.

Pharmacology texts will also tell doctors how hard it is to separate drug side effects from disease symptoms. Treatment failure is most often attributed to the disease and not to the drug or the doctor. Doctors are warned that "Probably nowhere else in professional life are mistakes so easily hidden, even from ourselves".³⁰ It may be hard to accept, but not difficult to understand, why only one in 20 side effects is reported to either hospital administrators or to the FDA.^{31, 31a}

If hospitals admitted to the actual number of errors and mistakes, which is about 20 times what is reported, they would come under intense scrutiny.³² Jerry Phillips, associate director of the Office of Post-Marketing Drug Risk Assessment at the FDA, confirmed this number: "In the broader area of adverse drug reaction data, the 250,000 reports received annually probably represent only 5% of the actual reactions that occur."³³ Dr Jay Cohen, who has extensively researched adverse drug reactions, commented that because only 5% of adverse drug reactions are being reported, there are, in reality, five million medication reactions each year.³⁴

It remains that whatever figure you choose to believe about the side effects from drugs, all the experts agree that you have to multiply that by 20 to get a more accurate estimate of what is really occurring in the burgeoning "field" of iatrogenic medicine.

A 2003 survey is all the more distressing because there seems to be no improvement in error reporting, even with all the attention on this topic. Dr Dorothea Wild surveyed medical residents at a community hospital in Connecticut. She found that only half of the residents were aware that the hospital had a medical error reporting system, and the vast majority didn't use it at all. Dr Wild said this does not bode well for the future. If doctors don't learn error-reporting in their training, they will never use it. And she added that error reporting is the first step in finding out where the gaps in the medical system are and fixing them. That first baby step has not even begun.³⁵

Public Suggestions on Iatrogenesis

In a [2002] telephone survey, 1,207 adults were asked to indicate how effective they thought the following would be in reducing preventable medical errors that resulted in serious harm:³⁶

- giving doctors more time to spend with patients: very effective, 78%;
- requiring hospitals to develop systems to avoid medical errors: very effective, 74%;
- better training of health professionals: very effective, 73%;
- using only doctors specially trained in intensive care medicine on intensive care units: very effective, 73%;
- requiring hospitals to report all serious medical errors to a state agency: very effective, 71%;
- increasing the number of hospital nurses: very effective, 69%;
- reducing the work hours of doctors-in-training to avoid fatigue: very effective, 66%;
- encouraging hospitals to voluntarily report serious medical errors to a state agency: very effective, 62%.

DRUG IATROGENESIS

Drugs comprise the major treatment modality of scientific medicine. With the discovery of the "germ theory", medical scientists convinced the public that infectious organisms were the cause of illness. Finding the "cure" for these infections proved much harder than anyone imagined.

From the beginning, chemical drugs promised much more than they delivered. But far beyond not working, the drugs also caused incalculable side effects. The drugs themselves, even when properly prescribed, had side effects that could be fatal, as Lazarou's study¹ showed. But human error could make the situation even worse.

If hospitals admitted to the actual number of errors and mistakes, which is about 20 times what is reported, they would come under intense scrutiny.

Medication Errors

A survey of a 1992 national pharmacy database found a total of 429,827 medication errors from 1,081 hospitals. Medication errors occurred in 5.22% of patients admitted to these hospitals each year. The authors concluded that a minimum of 90,895 patients annually were harmed by medication errors in the country as a whole.³⁷

A 2002 study showed that 20% of hospital medications for patients had dosage mistakes. Nearly 40% of these errors were considered potentially harmful to the patient. In a typical 300-patient hospital, there were 40 errors per day.³⁸

Problems involving patients' medications were even higher the following year. The error rate intercepted by pharmacists in this study was 24%, making the potential minimum number of patients harmed by prescription drugs 417,908.³⁹

Recent Adverse Drug Reactions

More recent studies on adverse drug reactions show that the number may have increased compared with the 1994 figure (published in Lazarou's 1998 *JAMA* article). A study published in February 2003 [*Ann. Int. Med.*] followed 400 patients after discharge from a tertiary care hospital (hospital care that requires highly specialised skills, technology or support services). Seventy-six patients (19%) had adverse events. Adverse drug events were the most common at 66%. The next most common events were procedure-related injuries at 17%.⁴⁰

In an *NEJM* study [April 17, 2003], an alarming one-in-four patients suffered observable side effects from the more than 3.34 billion drug prescriptions filled in 2002.⁴¹ One of the doctors who

produced the study was interviewed by Reuters and commented that "With these 10-minute appointments, it's hard for the doctor to get into whether the symptoms are bothering the patients".⁴² William Tierney, who editorialised on the *NEJM* study, said that "given the increasing number of powerful drugs available to care for the aging population, the problem will only get worse".

The drugs with the worst record of side effects were the SSRIs, the NSAIDs and the calcium-channel blockers. Reuters also reported that prior research has suggested that nearly 5% of hospital admissions—over one million per year—are the result of drug side effects. But most of the cases are not documented as such. The study found one of the reasons for this failure was that, in nearly two-thirds of the cases, doctors couldn't diagnose drug side effects or the side effects persisted because the doctor failed to heed the warning signs.

Medicating Our Feelings

We only need to look at the side effects of antidepressant drugs, which give hope to a depressed population. Patients seeking a more joyful existence and relief from worry, stress and anxiety fall victim to the messages blatantly displayed on TV and billboards. Often, instead of finding relief, they fall victim to myriad iatrogenic side effects of antidepressant medications.

Furthermore, a whole generation of antidepressant users has resulted from young people growing up on Ritalin. Medicating youth and modifying their emotions must have some impact on how they learn to deal with their feelings. They learn to equate coping with drugs and not with their inner resources. As adults, these medicated youth reach for alcohol, drugs or even street drugs to cope. According to *JAMA* [Aug 22–29, 2001], "Ritalin acts much like cocaine".⁴³

Mood-modifying drugs, such as Prozac or Zoloft, are marketed in such a way as to make them not only socially acceptable but almost a necessity in today's stressful world.

Television Diagnosis

In order to reach the widest audience possible, drug companies are no longer just targeting medical doctors with their message about antidepressants. By 1995, drug companies had tripled the amount of money allotted to direct advertising of prescription drugs to consumers. The majority of the money is spent on seductive television ads. From 1996 to 2000, spending rose from \$791 million to nearly \$2.5 billion [*NEJM*, Feb 14, 2002].⁴⁴ Even though \$2.5 billion may seem like a lot, the authors comment that it only represents 15% of the total pharmaceutical advertising budget. According to medical experts, "there is no solid evidence on the appropriateness of prescribing that results from consumers requesting an advertised drug". However, the drug companies maintain that direct-to-consumer advertising is educational.

Dr Sidney M. Wolfe, of the Public Citizen Health Research Group in Washington, DC, argues that the public is often misinformed about these ads.⁴⁵ People want what they see on television and are told to go to their doctor for a prescription. Doctors in

private practice either acquiesce to their patients' demands for these drugs or spend valuable clinic time trying to talk patients out of unnecessary drugs. Dr Wolfe remarks that one important study found that people mistakenly believe the "FDA reviews all ads before they are released and allows only the safest and most effective drugs to be promoted directly to the public".⁴⁶

Continued next issue...

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Editor's Note:

Due to space constraints, we are unable to publish the endnotes accompanying this article (apart from including some brief details within the text). Instead, we have posted them with the article on our website, <http://www.nexusmagazine.com>. Readers without Internet access can request a copy of the endnotes from their nearest NEXUS Office.

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**By 1995,
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**The majority of
the money is spent
on seductive
television ads.**